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Ten years of Lusi: A review

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The Lusi mud eruption has continued uninterrupted for ten years, settling into its current steady-state as a quasi-periodic geyser system. Many past, current, and future studies aim to quantify this system, which increasing evidence suggests is a new-born, tectonic scale hydrothermal system linked to the nearby volcano complex. The debate about whether the triggering of Lusi was a natural event of rather caused by drilling continues, but evidence mounts from the behavior of this system that an anthropogenic cause is highly unlikely. Understanding this system is very important because of its social and economic impact on the surrounding communities, and whether it poses future geohazards in the region from future eruptions. A large effort of infrastructures and constant maintenance activity has been and is being conducted inside the 7km2 mud flooded area. This region is framed by a tall embankment that contains the erupted mud and protects the surrounding settlements. This system is also very important for understanding at a larger scale volcanic hydrothermal systems, and to determine whether this new geothermal resource might be exploited. A large effort is underway from an EU-grant supporting the Lusi-Lab project (CEED, University of Oslo) and an SNF grant supporting the University of Neuchatel to study this system from geochemical, geophysical, and modeling perspectives. This review talk summarizes what is known, what is still unclear, and will revisit the behavior of Lusi since its inception.